



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,964	01/29/2004	Masahiko Minemura	0649-0945P	2338

2292 7590 03/27/2006

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

METZMAIER, DANIEL S

ART UNIT	PAPER NUMBER
----------	--------------

1712

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/765,964

Applicant(s)

MINEMURA ET AL.

Examiner

Daniel S. Metzmaier

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 Jan 2004 & 13 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/29 & 7/13/2004.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claims 1-8 are pending.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim interpretation

2. The term "dilatant" is accepted to define a property of a material to increase in viscosity with an increase in shear force, i.e., shear thickening.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 5 is indefinite because "c" and "d", which are numerically defined, lack proper antecedent basis elsewhere in the claims. It is unclear what "c" and "d" refer.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1712

6. Claims 1-4 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurono et al, US 5,843,335¹. Kurono et al (abstract, claims, and examples) discloses dilatant liquid comprising silica (examples and claim 4) having a particle size of 0.05 to 5 microns (0.05 microns equates to 50 nm), a liquid (such as silicon oil, see 6th embodiment, column 8, lines 31-33, and claim 10) and either ammonia water or an amine such as triethanolamine (see column 7, lines 5-10, examples; and claims 5 and 6), which acts to stabilize the particles and reads on the claimed particle dispersing agent claimed. Silicone oil is deemed to read on cyclic or linear dimethyl silicone oil of claim 8. The Kurono et al concentrations (claim 1 and examples) encompass those instantly claimed.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

¹ Kurono et al, US 5,843,335, corresponds to the same patent family as JP 08281095.

Art Unit: 1712

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-6 and 8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Graham, US 3,933,678, optionally in view of Barnes, "Shear-Thickening ("Dilatancy") in Suspensions of Nonaggregating Solid Particles Dispersed in Newtonian Liquids", *Journal of Rheology*, 33(2) (1989), pages 329-366. Graham (abstract, examples, and claims) discloses the formation of optical grease-like material, which has an excellent work shear stability (abstract). Graham (column 1, lines 49-53) characterizes an art problem during the operation of use, if the grease losses its consistency due to shear, it does not function in use. Thus, Graham desires a material that maintains or increases its consistency under shear.

The Graham materials comprise (examples and claims) (1) a phenylmethyl siloxane, (2) a silica thickener, and (3) a polyether soluble in (1) and including ethylene oxide and/or propylene oxide siloxane copolymers. Said materials comprise 5 to 25 parts by weight of (2) and 1 to 30 parts by weight of (3) based on 100 parts by weight of (1). Graham (column 3, lines 11-28; and examples) teaches finely divided silica including pyrogenic silica having a surface area of greater than 100 m²/g. Pyrogenic silica or fumed silica is generally known to be finely divided particle size of tens of nanometers.

The dilatant property would have been inherent to the compositions disclosed in the Graham reference since the compositions otherwise are anticipated. A compound

Art Unit: 1712

or composition and all of its properties are generally inseparable. *In re Papsech*, 315

F2d. 381, 137 USPQ 43, (CCPA 1963).

Barnes (page 330) states:

We shall find that so many kinds of suspensions show shear-thickening that one is soon forced to the conclusion that given the right circumstances, all suspensions of solid particles will show the phenomenon. It is important to note also that in suspensions, the shear thickening is almost immediately reversible, that is to say as soon as the shear rate is decreased, the viscosity (however high it might be) immediately decreases.

The claims do not define the circumstances or conditions of the dilatant property.

To the extent the Graham reference differs from the claims in the specific concentrations and/or the property of dilatancy, Graham teaches the property of at least maintaining viscosity under the action of shear stress. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention to add the silica in the materials taught in Graham to provide a shear thickening (dilatant) composition so the composition has the proper shear stability when employed in the Graham utility as an optical coupling agent.

10. Claims 1 and 4-8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Shin-Etsu Chemical Co, LTD, WO 02/100356 A1 (hereafter Shin-Etsu Chemical Co), as evidenced by Ono et al, US PG PUB 2004/0156809, and Barnes, "Shear-Thickening ("Dilatancy") in Suspensions of Nonaggregating Solid Particles Dispersed in Newtonian Liquids", *Journal of Rheology*, 33(2) (1989), pages 329-366; optionally further in view of Shiseido Co Ltd, JP 55-

Art Unit: 1712

115811 and JP 54-28832, the corresponding Derwent Abstracts, AN 1980-74382C and 1979-28586B.

Ono et al is a patent family member of Shin-Etsu Chemical Co as evidenced by the same priority documents on the front of each document. Ono et al is expected to have the same or substantially the same discloser and has been used here as an English language equivalent of Shin-Etsu Chemical Co. The paragraph citations with correspond to those in the Ono et al reference.

Shin-Etsu Chemical Co and Ono et al (abstract, ¶ [0010], examples and claims) disclose surface treated powders for use and dispersion in compositions comprising siloxanes. The surface treating agents are copolymers of (meth)acryl monomers with siloxanes having a (meth)acryl group as the terminal group and read on those of instant claim 7 (see ¶ [0010]-[0040], examples and claims). Shin-Etsu Chemical Co and Ono et al (examples, particularly at least examples 12, 16, 19, and 20) disclose compositions employing the components and concentrations as claimed.

Applicants' claims employ open language, i.e., "comprising". Applicants' claims do not exclude the further components disclosed. While the Shin-Etsu Chemical Co and Ono et al references do not explicitly disclose the compositions as having the dilatant property, said property would have been inherent since the claims otherwise read on the reference(s) compositions. A compound or composition and all of its properties are generally inseparable. *In re Papsech, supra*.

Furthermore, Barnes (page 330) states:

We shall find that so many kinds of suspensions show shear-thickening that one is soon forced to the conclusion that given the right

circumstances, all suspensions of solid particles will show the phenomenon. It is important to note also that in suspensions, the shear thickening is almost immediately reversible, that is to say as soon as the shear rate is decreased, the viscosity (however high it might be) immediately decreases.

The claims do not define the circumstances or conditions of the dilatant property.

To the extent the Shin-Etsu Chemical Co and Ono et al compositions differ from the claims in the dilatant property or the incorporation of the further ingredients employed in the references, It would have been obvious to one having ordinary skill in the art at the time of applicants' invention to form a dilatant fluid for use in the utilities disclosed in the references. Shin-Etsu Chemical Co and Ono et al (§ [0001] and examples) and Shiseido '811 and '832 (Derwent Abstracts) disclose dilatant compositions of an inorganic powder dispersed in siloxane having conventional use in cosmetics.

Shin-Etsu Chemical Co and Ono et al discloses surface treating powders to improve their properties including dispersibility in compositions comprising siloxanes for use in cosmetics. Shiseido '811 and '832 (Derwent Abstracts) teaches dispersed powders in siloxanes for use in cosmetics having dilatant properties.

These references are combinable since they teach compositions of an inorganic powder dispersed in compositions comprising siloxanes having conventional use in cosmetics. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ the surface treated powders of Shin-Etsu Chemical Co and Ono et al in the compositions of Shiseido '811 and '832 for the advantage of improved properties including dispersibility. It would have further been obvious to


employ the compositions of Shiseido '811 and '832 as a dilatant cosmetic employing the dispersed surface treated powders taught in Shin-Etsu Chemical Co and Ono et al for the advantage of making a dilatant cosmetic of improved properties as taught in the Shin-Etsu Chemical Co and Ono et al references.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Daniel S. Metzmaier
Primary Examiner
Art Unit 1712